

F.1
2/16/07

February 16, 2007
File No. 20.0151605.00

United States Environmental Protection Agency
77 West Jackson Boulevard
Mail Code SE-5J
Chicago, Illinois 60604

9/2244



Attention: Ms. Verneta Simon

Re: NRC Incident Number 825795
Rexnord Seal Operation
634 Glenn Avenue
Wheeling, Illinois

20900 Swenson Drive
Suite 150
aukesha
Wisconsin
53186
262-754-2560
Fax: 262-754-9711
www.gza.com

Dear Ms. Simon:

This letter provides the information you requested from Ms. Janine Landow-Esser of Quarles & Brady, LLP, regarding incident NRC Incident Number 825795 at the Rexnord Seal Operation (Rexnord) located at 634 Glenn Avenue in Wheeling, Illinois ("facility"). This response is provided by GZA GeoEnvironmental, Inc. (GZA), Rexnord's Environmental Consultant, in good faith with the best information available at this time. If GZA is provided additional information that results in material differences, a new or revised report will be provided.

On Monday, February 5, 2007, at approximately 1:30 pm, a supervisor of the facility directed a maintenance employee to move a manometer from storage on the second level rack in the Stock Room to a different location. The manometer was a Meriam Instrument Company, 33K035 manometer ("manometer"), that is a common device in industry used to measure pressure. The maintenance employee accessed a ladder positioned on the east side of the rack so he could determine the girth and weight of the manometer to select the proper means for removal. This maintenance employee lifted the manometer in the process with the "high end" of the manometer being on the east side of the rack and the low end on the west. The supervisor observed a liquid being released from the manometer to the low rack and floor levels, which in this location and throughout the facility, is concrete. At this time, the company's presumption was that the liquid was mercury.

The supervisor immediately directed the maintenance employee to place the east end of the manometer back down on the rack. The area was immediately cordoned off and the Wheeling, Illinois fire department and the Illinois Emergency Management Agency were notified. The fire department arrived immediately and informed the facility representative that this was a relatively minor mercury release incident. In order to respond in a prudent manner, the facility nonetheless contacted SET Environmental, Inc. (SET), an abatement firm that was recommended to them by AQS, the facility's waste disposal firm.

A representative of SET arrived at the facility at approximately 10:00 pm on February 5, 2007, and advised the facility that mercury abatement activities were necessary and that his firm could immediately commence assessment activities. Numerous airborne mercury measurements were collected with a Lumex meter, a portable atomic absorption monitoring device.



Concurrently, Rexnord advised its second shift employees who were in the vicinity of the Stock Room to call their houses and request different clothing and shoes unless they had other clothing and shoes in their work locker at the facility. Upon delivery of the employees' different clothing and shoes, unless they had substitute clothing and shoes in their work lockers, Rexnord collected the employee's work clothing and shoes for testing.

At this time, Rexnord inquired from SET whether the facility should be evacuated to which SET advised that an evacuation was not required. Rather, SET recommended the establishment of a perimeter well beyond the area of the mercury release and predicated on airborne mercury concentrations. Specifically, airborne concentration that exceed an Action Level of 0.003 milligrams of mercury per cubic meter of air (mg/m^3) or 3,000 nanograms of mercury per cubic meter of air (ng/m^3), as defined by the Agency for Toxic Substances Disease Registry (ATSDR) for commercial sites, were considered "hot zones" requiring abatement. If the mercury vapor reading was below $0.003 \text{ mg}/\text{m}^3$ or $3,000 \text{ ng}/\text{m}^3$, the surface was considered uncontaminated and the area was considered safe. These levels are several hundred times more protective than the workplace exposure limits set by the United States Department of Labor, Occupational Safety & Health Administration (OSHA) of $0.10 \text{ mg}/\text{m}^3$, which should not be exceeded at any time. Additionally, the National Institute for Occupational Safety and Health (NIOSH) has established an eight-hour time-weighted average (TWA) limit of $0.05 \text{ mg}/\text{m}^3$ of metallic mercury vapor.

Immediately, a protocol was established for allowing the employees to vacate the facility. As selected employees departed, airborne mercury measurements were collected at their work stations. As the employees departed the facility, they either left their shoes at the facility or were provided booties with instructions to return their shoes to the facility the next day. These employees were also advised not to transport their work shoes into their personal residences. SET was then queried whether employees could return to work at the facility on Tuesday, February 6, 2007.

SET advised Rexnord that operation of the facility in all locations outside of the perimeter did not provide a risk to employees. Prior to employees returning to the facility on Tuesday, February 6, 2007, Rexnord posted signage on the employee entrance hallway and shop entrances to make its employees aware of the issue and provide cautionary information.

SET then continued to assess the facility and established recommended areas for vacuuming using mercury vacuums, the application of an aqueous mercury binding soap solution, the use of absorbent media, or all these activities. On Tuesday, February 6, 2007, in order to provide a maximal efficiency of the cleanup activities, Rexnord elected to

vacate the facility and cease the operations until Monday, February 12, 2007. At this time, Rexnord retained GZA GeoEnvironmental, Inc. (GZA) to provide independent testing and related services.



As a follow-up to the February 5, 2007 testing of second shift employees' shoes, it was decided on February 6, 2007, that the work shoes of employees who had entered the facility the first shift on February 6, 2007, would also be collected for testing. All shoes were then tested with the shoes of 12 employees exceeding the guidelines established by SET. Specifically, Rexnord requested that its employees place their shoes that they wore to work on Monday, February 5, 2007, and Tuesday, February 6, 2007, in plastic bags and return the shoes to the facility. For the testing of the shoes, the shoes were placed in a sealable plastic bag. The bag was then placed in a warming chamber to warm the shoes and the bag was opened to allow the headspace air within the bag to be measured by the Lumex. If testing of the air (heated) in the bag revealed a concentration below the ATSDR-recommended level of 0.01 mg/m^3 or $10,000 \text{ ng/m}^3$, the shoes were considered safe. If the concentration was above 0.01 mg/m^3 or $10,000 \text{ ng/m}^3$, Rexnord requested further testing of the employees' residence and vehicle. Based on the results, the assessment of 12 residence and vehicles were scheduled. One employee refused to have his residence and vehicle assessed, resulting in 11 residences and vehicles being tested on February 9 through 11, 2007. In order to assess the residences, the primary means of ingress and egress, each room in the residence, the locations where work clothing was placed prior to laundering, the area where laundering occurred and the clothes washer and dryer were monitored using the Lumex. For the vehicles, the Lumex was also used to monitor the occupant compartment after the vehicle had been started and allowed to warm the occupant compartment. For the residence and vehicle, the ATSDR residential site ng/m^3 airborne concentration of $1,000 \text{ ng/m}^3$ was utilized to determine whether cross-contamination had occurred.

In every instance, except one clothes washer in one residence, the guidelines were met. This clothes washer was removed from the residence for future disposal by SET. Additionally, on February 12, 2007, the personal items in each employee's work locker were evaluated with each item meeting the ATSDR guidelines. Further, five employees, which constituted the second shift Stock Room employees, were directed by Rexnord to have blood and urine tests for mercury administered on or about February 12, 2007. The results of these tests were all acceptable. Blood and urine testing for mercury was offered to any employee who expressed a concern, with one employee requesting the test. It should be noted that neither SET or GZA recommended this testing, nor were there any signs or symptoms of employee illness to warrant the testing, however, Rexnord desired to provide the maximum protection for its employees and provide this testing.

In order to provide a background concentration for workers not present at the facility during the second shift on Monday, February 5, 2007, Rexnord assessed the work shoes and residences of two additional employees. Both of these employees' residences were below the ATSDR guidelines.

On Tuesday, February 13, 2007, blood and urine testing for mercury was administered to an employee who was experiencing flu-like symptoms. The results of this testing were also within the guidelines.

On Friday, February 9, 2007, GZA collected 10 confirmatory air samples to confirm that the ATSDR commercial guidelines were met from the Office area, Assembly Rooms, Lapping Room, Sales/Engineering Office area, Men's Room, Cafeteria, Maintenance Room and Laboratory. Air samples were collected using <0.0610 microgram (μg) Hopcalite tubes with a sample flow rate of 250 milliliters per minute (cc/min). Analysis was conducted by Analytics Corporation of Ashland, Virginia using the NIOSH 6009 method. Results were all less than the laboratory detection limits which ranged from <2 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to <2.03 $\mu\text{g}/\text{m}^3$ and are provided in Attachment 1.

On Monday, February 12, 2007, the facility was reopened with all employees being provided specific update information and safe operation training regarding the incident. At this time, Rexnord again offered testing of the employees' blood and urine and their residence or vehicle. Rexnord also inquired if any of its employees or their significant others were pregnant or potentially pregnant, with no affirmative responses. One employee requested the testing of their residence, which again was well below the ATSDR residential guidelines.

SET continued to assess and abate the mercury based on the guidelines. SET collected materials from the Stock Room racks, wrapped the material in plastic and positioned these materials outside the facility on double impervious plastic flooring in secured tenting for future evaluation and abatement, if necessary. The materials will be individually evaluated for subsequent abatement or for proper staging for disposal at an approved disposal facility.

On Monday, February 12, 2007, eight additional confirmatory air samples to confirm that the guidelines were met were collected from the Machine Shop, Women's Room, Shipping Area, Hydropad Room, FQC Workstation Area and the Grinding Area using the method previously described. Results ranged from <1.72 $\mu\text{g}/\text{m}^3$ to <2.03 $\mu\text{g}/\text{m}^3$. The sample results are found in Attachment 2.

Thus, all areas of the facility currently meet the ATSDR guidelines, except the Stock Room. In the Stock Room, abatement activities have continued with a small area in and around the initial area of the release in the Stock Room racks (approximately 240 square feet) being the only location requiring additional abatement. SET advised Rexnord that work in this location should be completed by the end of the day on Friday, February 16, 2007. On Thursday, February 15, 2007, GZA collected four additional air samples in the Stock Room. These air samples were all within the ATSDR guidelines with airborne concentrations below the laboratory detection limits which ranged from <1.46 $\mu\text{g}/\text{m}^3$ to <1.77 $\mu\text{g}/\text{m}^3$ and are found in Attachment 3.

Thus, as of Friday, February 16, 2007, approximately 7 ounces of mercury have been recovered from the facility. The facility has received clearance for occupancy by SET with



GZA providing further clearance for occupancy based on air sampling results. All residences tested meet the ATSDR residential guidelines. No urine or blood tests indicate any harmful exposure.

Please feel free to contact the undersigned at (262) 754-2560 with any questions, or if you require additional information.



Very truly yours,

GZA GeoEnvironmental, Inc.

A handwritten signature in black ink, appearing to read "Kim E. Anderson", is written over a horizontal line.

Kim E. Anderson, Ph.D.
Principal/Director of Toxicology,
Environmental Health and Safety

J:\151600to151699\151605\NRC 825795 Report.doc

Attachments

cc: Monesh Chabria (United States Environmental Protection Agency)
Ms. Janine Landow-Esser (Quarles & Brady LLP)
Mr. Bob Uecker (Rexnord)
Ms. Patty Whaley (Rexnord)
Mr. Vince Buffa (Rexnord)
Mr. Richard Reiner (Rexnord)



ATTACHMENT 1

**Sample Results
February 9, 2007**

3 Day
Standard
TAT for IH !

5 Day
Standard
TAT for ENV !

No Charge
Leak
Pump
Program !

Customized
Electronic
Reporting !

Dedicated
Project
Management!



Analytics Corporation
10329 Stony Run Lane
Ashland VA 23005
Fax: 804-365-3002
Phone: 804-365-3000

TO: KIM ANDERSON
Company: TESTAMERICA ANALYTICAL TESTING CO
Fax: 1-262-754-9711
Date: Monday, February 12, 2007 1:53:14 PM
Pages: 05

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Group No. L043-001
Account No. 14709000
Report Date: 02/12/07

KIM ANDERSON
TESTAMERICA ANALYTICAL TESTING CORP
CEDAR FALLS DIVISION
704 ENTERPRISE DRIVE
CEDAR FALLS, IA 50613

**** FINAL REPORT ****

Date Received: 02/12/07
Sample Type: 11 - Air Sample(s)
Project: REXNORD, WHEELING, IL PO Number:

Analytical Results

Lab	Parameter	Volume	Amount	LOQ	Concentration	Analysis
-001	1 Samp Date: 02/09/07 OFFICE (S. WALL) Hopcalite Tube					
-	Mercury Total	30.5 L	< 0.061 ug	.061 ug	< 2 ug/M3	02/12/07
-002	2 Samp Date: 02/09/07 SO ASSEMBLY Hopcalite Tube					
-	Mercury Total	30.5 L	< 0.061 ug	.061 ug	< 2 ug/M3	02/12/07
-003	3 Samp Date: 02/09/07 LAPPING ROOM Hopcalite Tube					
-	Mercury Total	30.5 L	< 0.061 ug	.061 ug	< 2 ug/M3	02/12/07
-004	4 Samp Date: 02/09/07 ASSEMBLY Hopcalite Tube					
-	Mercury Total	30.5 L	< 0.061 ug	.061 ug	< 2 ug/M3	02/12/07
-005	5 Samp Date: 02/09/07 SALES/ENGINEERING Hopcalite Tube					
-	Mercury Total	30.0 L	< 0.061 ug	.061 ug	< 2.03 ug/M3	02/12/07
-006	6 Samp Date: 02/09/07 OFFICES Hopcalite Tube					
-	Mercury Total	30.0 L	< 0.061 ug	.061 ug	< 2.03 ug/M3	02/12/07
-007	7 Samp Date: 02/09/07 MENS ROOM Hopcalite Tube					
-	Mercury Total	30.0 L	< 0.061 ug	.061 ug	< 2.03 ug/M3	02/12/07
-008	8 Samp Date: 02/09/07 LUNCH ROOM Hopcalite Tube					
-	Mercury Total	30.0 L	< 0.061 ug	.061 ug	< 2.03 ug/M3	02/12/07
-009	9 Samp Date: 02/09/07 MAINTENANCE ROOM Hopcalite Tube					
-	Mercury Total	30.0 L	< 0.061 ug	.061 ug	< 2.03 ug/M3	02/12/07
-010	10 Samp Date: 02/09/07 LAB Hopcalite Tube					
-	Mercury Total	30.0 L	< 0.061 ug	.061 ug	< 2.03 ug/M3	02/12/07

Group No. L043-001
Account No. 14709000
Report Date: 02/12/07

KIM ANDERSON
TESTAMERICA ANALYTICAL TESTING CORP
CEDAR FALLS DIVISION
704 ENTERPRISE DRIVE
CEDAR FALLS, IA 50613

Final Report

Date Received: 02/12/07
Sample Type: 11 - Air Sample(s)
Project: REXNORD, WHEELING, IL PO Number:

Analytical Results

Lab	Parameter	Volume	Amount	LOQ	Concentration	Analysis
-011	11 Samp Date: 02/09/07		BLANK	Hopcalite Tube		
-	Mercury Total	0 L	< 0.061 ug	.061 ug	--	02/12/07

Abbreviations: ug = micrograms, mg = milligrams, mg/M3 = milligrams per cubic meter of air, g = grams, ug/M3 = micrograms per cubic meter of air, L = liters, all Volumes given in liters, ppm = parts per million, ppb = parts per billion, Areas given in square feet; ND = Not Detected; ug/wp = ug/wipe; NVG = No Volume Given. NAG = No Area Given, LOQ = Limit of Quantitation.

Group No. L043-001
Account No. 14709000
Report Date: 02/12/07

KIM ANDERSON
TESTAMERICA ANALYTICAL TESTING CORP
CEDAR FALLS DIVISION
704 ENTERPRISE DRIVE
CEDAR FALLS, IA 50613

Final Report

Summary of Analytical Methods

Compound Name	Analytical Method	Abbreviation
Mercury Total	NIOSH 6009	----
Non-detects		

Results provided in this report relate only to the items tested.

Attached are the results we obtained on the analysis of your samples. Any Chains-of-Custody associated with this sample group are also enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical Air Volumes for passive monitors are calculated using the sampling time submitted and the manufacturer's listed sampling rate for each compound.

For blanks and non-detects the results indicated with a '<' value represents the reporting limit for that analysis. Unless otherwise noted results are not corrected for blank values.

Unless the signature of the appropriate manager(s) appears on the final page of this report, this report should be considered PRELIMINARY and is subject to change.

We appreciate your confidence in allowing Analytics to be your testing laboratory. Any questions regarding this report can be addressed by calling our client services department (800-888-8061).

James A. Calpin, CIH
Laboratory Director



ATTACHMENT 2

**Sample Results
February 12, 2007**

February 14, 2007

Client:

GZA ENVIRONMENTAL, INC.
20900 Swenson Dr. Suite 150
Waukesha, WI 53186

Work Order: CQB0486
Project Name: Rexnord, Mercury Analysis
Project Number: Wheeling, IL

Attn: Kim Anderson

Date Received: 02/13/07

An executed copy of the chain of custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(800)750-2401

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
11-Machine Shop 1	CQB0486-01	02/12/07
12-R&D Area	CQB0486-02	02/12/07
13-Womens Room	CQB0486-03	02/12/07
14-Shipping	CQB0486-04	02/12/07
15-Final QC-1	CQB0486-05	02/12/07
16-Hydro Pad Rm	CQB0486-06	02/12/07
17-FQC Workstation 3	CQB0486-07	02/12/07
18-Grinding Dept. 4	CQB0486-08	02/12/07
Blank	CQB0486-09	02/12/07

Case Narrative: Analyzed by Analytics Corp. - Ashland, VA.

Wisconsin Certification Number: 999917270

Field blanks are not used in sample correction unless noted.

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample analyzed.

Approved By:



Michael K. McGee, CIH - Laboratory Director

AIHA Lab Certification Number: #101044

TestAmerica - Cedar Falls, IA
Brian C. Graettinger
Project Manager

GZA ENVIRONMENTAL, INC.
20900 Swenson Dr. Suite 150
Waukesha, WI 53186
Kim Anderson

Work Order: CQB0486
Project: Rexnord, Mercury Analysis
Project Number: Wheeling, IL

Received: 02/13/07
Reported: 02/14/07 07:42

ANALYTICAL REPORT

Analyte	Result	Data Qualifiers	Date Analyzed	Analyst	Method	Quant. Limit
Sample ID: CQB0486-01 (11-Machine Shop 1)						
Mercury	<0.0610ug/tube	<2.03 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-02 (12-R&D Area)						
Mercury	<0.0610ug/tube	<2.03 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-03 (13-Womens Room)						
Mercury	<0.0610ug/tube	<1.98 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-04 (14-Shipping)						
Mercury	<0.0610ug/tube	<1.92 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-05 (15-Final QC-1)						
Mercury	<0.0610ug/tube	<1.97 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-06 (16-Hydro Pad Rm)						
Mercury	<0.0610ug/tube	<1.72 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-07 (17-FQC Workstation 3)						
Mercury	<0.0610ug/tube	<1.75 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-08 (18-Grinding Dept. 4)						
Mercury	<0.0610ug/tube	<1.88 ug/m3	2/13/2007	beg	NIOSH 6009	0.0610
Sample ID: CQB0486-09 (Blank)						
Mercury	<0.0610ug/tube	--- ug/m3	2/13/2007	beg	NIOSH 6009	0.0610



ATTACHMENT 3

**Sample Results
February 15, 2007**

3 Day
Standard
TAT for IH !

5 Day
Standard
TAT for ENV !

No Charge
Liner
Pump
Program !

Customized
Electronic
Reporting !

Dedicated
Project
Management!



Analytics Corporation
10329 Stony Run Lane
Ashland VA 23005
Fax: 804-365-3002
Phone: 804-365-3000

TO:	RUSH
Company:	TESTAMERICA ANALYTICAL TESTING CO
Fax:	1-262-754-9711
Date:	Friday, February 16, 2007 4:58:04 PM
Pages:	04

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Group No. L047-005
Account No. 14709000
Report Date: 02/16/07

KIM ANDERSON
TESTAMERICA ANALYTICAL TESTING CORP
CEDAR FALLS DIVISION
704 ENTERPRISE DRIVE
CEDAR FALLS, IA 50613

**** FINAL REPORT ****

Date Received: 02/16/07
Sample Type: 5 - Air Sample(s)
Project: REXNORD PO Number:

Analytical Results

Lab	Parameter	Volume	Amount	LOQ	Concentration	Analysis
-001	19-STOCKROOM 1	Samp Date: 02/15/07	Hopcalite Tube			
-	Mercury Total	36 L	< 0.061 ug	.061 ug	< 1.69 ug/M3	02/16/07
-002	20-STOCKROOM 2	Samp Date: 02/15/07	Hopcalite Tube			
-	Mercury Total	38.25 L	< 0.061 ug	.061 ug	< 1.59 ug/M3	02/16/07
-003	21-STOCKROOM 3	Samp Date: 02/15/07	Hopcalite Tube			
-	Mercury Total	34.5 L	< 0.061 ug	.061 ug	< 1.77 ug/M3	02/16/07
-004	22-STOCKROOM 4	Samp Date: 02/15/07	Hopcalite Tube			
-	Mercury Total	41.75 L	< 0.061 ug	.061 ug	< 1.46 ug/M3	02/16/07
-005	BLANK	Samp Date: 02/15/07	Hopcalite Tube			
	Mercury Total	0 L	< 0.061 ug	.061 ug	--	02/16/07

Abbreviations: ug = micrograms, mg = milligrams, mg/M3 = milligrams per cubic meter of air, g = grams, ug/M3 = micrograms per cubic meter of air, L = liters, all Volumes given in liters, ppm = parts per million, ppb = parts per billion, Areas given in square feet; ND = Not Detected; ug/wp = ug/wipe; NVG = No Volume Given. NAG = No Area Given, LOQ = Limit of Quantitation.

Group No. L047-005
Account No. 14709000
Report Date: 02/16/07

KIM ANDERSON
TESTAMERICA ANALYTICAL TESTING CORP
CEDAR FALLS DIVISION
704 ENTERPRISE DRIVE
CEDAR FALLS, IA 50613

Final Report

Summary of Analytical Methods

Compound Name	Analytical Method	Abbreviation
Mercury Total	NIOSH 6009	----

N 3S

Results provided in this report relate only to the items tested.

Attached are the results we obtained on the analysis of your samples. Any Chains-of-Custody associated with this sample group are also enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical Air Volumes for passive monitors are calculated using the sampling time submitted and the manufacturer's listed sampling rate for each compound.

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James A. Calpin, CIH
Laboratory Director